

# Best Management Practices

MISSOURI DEPARTMENT OF CONSERVATION



## Topeka Shiner

*Notropis topeka*

**Common name** • Topeka Shiner

**Scientific name** • *Notropis topeka*

**Federal status** • Endangered

**State status** • Endangered

### Ecology

Topeka shiners were historically widespread in western tributaries of the Mississippi River from central Missouri to southern Minnesota, west to South Dakota and western Kansas. Currently in northwest and central Missouri, they typically occupy permanent pools of small, clear, high-quality headwater streams draining upland areas. Typical stream substrates are gravel, rubble, sand, or bedrock often with a slight layer of silt. Many occupied streams become intermittent in the summer, but the pools are maintained by percolation of water from subterranean flow. Topeka shiners feed primarily on aquatic insects. Males defend small territories around green sunfish (*Lepomis cyanellus*) or orangespotted sunfish (*L. humilis*) nests, the primary spawning location. Spawning takes place from late May to late July. Adult Topeka shiners typically reach a length of 1.5-2 inches.

### Reasons for Decline

A combination of factors have caused the dramatic decline of the Topeka shiner from over 80 percent of its former geographic range in Missouri and over 90 percent throughout its entire range. Threats to the Topeka shiner include reduced water quality due to excessive animal waste, fertilizer, and pesticide runoff, unrestricted livestock access to streams and riparian areas, siltation, and non-point source pollution. Habitat destruction and degradation can result from removal of streamside vegetation, poorly designed gravel removal, construction, and timber clearing operations. Stream straightening (channelization) is also a major threat to Topeka shiner habitat because it alters water temperature and the flow regime. Introduced predatory fish pose an additional threat, and impoundments that alter stream hydrology can act as barriers to fish dispersal and thus be detrimental to Topeka shiner populations.

### Specific Recommendations

The Topeka shiner is an excellent indicator of water quality because of its sensitivity to habitat changes. Efforts should be made to ensure our waterways are healthy through protection and/or restoration of habitat for this and other aquatic species.

→ No work should be allowed below the high bank of the stream between May 15 and July 31 to avoid disrupting spawning activity.

→ Sheet piling for coffer dams for the construction of bridge piers may be placed after July 31 but should be removed prior to May 15 of the following year. Removal of coffer dams should be coordinated with appropriate Missouri Department of Conservation personnel.

→ Dams and other impoundments should not be constructed in those streams where this species occurs.

→ Erosion and sediment controls should be implemented, maintained, and monitored for the duration of the project.

→ With regard to permanent road crossings, use of a bridge may be more appropriate than placement of a culvert due to the potential of migration restriction for this species.

### General Recommendations

Refer to Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers.

### Information Contacts

For further information regarding regulations for development in rivers and streams, contact:

Missouri Department of Conservation  
Policy Coordination Section  
P.O. Box 180  
2901 W. Truman Blvd  
Jefferson City, MO 65102-0180  
Telephone: 573/751-4115

Missouri Department of Natural Resources  
Division of Environmental Quality  
P.O. Box 176  
Jefferson City, MO 65102-0176  
Telephone: 573/526-3315

U.S. Army Corps of Engineers  
Regulatory Branch  
700 Federal Building  
Kansas City, MO 64106-2896  
Telephone: 816/983-3990

U.S. Environmental Protection Agency  
Water, Wetlands, and Pesticides Division  
901 North 5th Street  
Kansas City, KS 66101  
Telephone: 913/551-7307

U.S. Fish and Wildlife Service  
Ecological Services Field Office  
608 E. Cherry Street, Room 200  
Columbia, MO 65201  
Telephone: 573/876-1911

## **Disclaimer**

These Best Management Practices were prepared by the Missouri Department of Conservation with assistance from other state agencies, contractors, and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat. Compliance with Best Management Practices is not required by the Missouri wildlife and forestry law nor by any regulation of the Missouri Conservation Commission. Other federal, state or local laws may affect construction practices.